**3GPP TSG-SA5 Meeting #144-e *S5-22xxxx***

**Source: A short discussion paper on EE of NWDAF**

**Title:**

**Document for:**

**Agenda Item:**

# 1 Decision/action requested

***The group is asked to discuss and endorse on the proposal.***

# 2 References

# 3 Discussion

## 3.1 Background

As already done in the Rel-17 work on EE, we define the EE KPI of any entity in 5GS as:

‘the performance of the entity’ divided by ‘the energy consumption of the entity’.

According to the type of the entity (e.g., gNB, 5GC, UPF, eMBB network slice, etc.), the performance of the entity is defined.

For example, for the network slice of type eMBB, the performance of the eMBB is defined as the summation of the UL and DL data volumes at N3 interface(s) of the network slice. While for the 5GC, since it includes NFs in both control plane and user plane, the concept of the Useful Output, which is firstly introduced in ES 203 539, is borrowed to provide a generic framework to define the performance of 5GC.

## 3.2 Observations

Observation 1: The EE KPI of the entities in 5GS is defined based on the performance measurement of the entities. In other words, the performance measurement provides the building block for the EE KPI, and they need to be defined in the first place so that EE KPI can be defined hereafter.

Observation 2: After examining to the EE definition the TS 28.554, we observed that which performance measurements are used in the EE KPI definition and how will the performance measurements be used to derive the EE KPI are the inseparable parts of the EE KPI definition. In other words, they are provided with and within the EE KPI definition when the EE KPI of the entity is defined.

## 3.3 Proposals

Based on the observation above, we have the following proposals:

Proposal 1: The EE KPI of the NWDAF is out of the scope of this study.

Proposal 2: In case that the EE KPI of the NWDAF is studied, the NWDAF performance measurements which can be potentially used to define the EE KPI of the NWDAF is within the scope of this study.